

SUPPLEMENTAL AMENDMENT AND RESPONSE UNDER 37 CFR 1.111

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Serial No.: 09/993,333

Atty. Docket 875.042US1

Filed: November 14, 2001

Title: REDUCTION OF ANTIOXIDANT ENZYME LEVELS IN TUMOR CELLS USING ANTISENSE OLIGONUCLEOTIDES

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612-373-6961) to facilitate prosecution of this application.


If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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By their Representatives,

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Date 15 October 2002 By 
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CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, Washington, D.C. 20231, on this 15 day of October, 2002.

Candis B. Buending

Name

Signature 

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CLEAN VERSION OF CLAIMS

- U.E.
1. [Previously Amended] An oligonucleotide comprising an antisense nucleic acid sequence that specifically binds to a nucleic acid encoding an antioxidant enzyme start codon, wherein the antisense sequence is about 18 to 26 nucleotides in length, and wherein the antioxidant enzyme is copper and zinc superoxide dismutase, catalase, phospholipid glutathione peroxidase, or cytosolic glutathione peroxidase.
 2. [Previously Amended] The oligonucleotide of claim 1, wherein the antisense nucleic acid is about 20 nucleotides in length.
 3. [Previously Amended] The oligonucleotide of claim 1, wherein the antisense nucleic acid sequence is phosphorothiolated.

 5. [Twice Amended] The oligonucleotide of claim 1, wherein the antioxidant enzyme is catalase or phospholipid glutathione peroxidase.

 6. [Previously Amended] The oligonucleotide of claim 1, wherein the antisense nucleic acid sequence is complementary to 90% of the nucleic acid encoding an antioxidant enzyme.
 7. [Previously Amended] The oligonucleotide of claim 1, wherein the antisense nucleic acid sequence is complementary to 100% of the nucleic acid encoding an antioxidant enzyme.
 8. [Previously Amended] A method of treating a tumor in a mammal comprising reducing antioxidant enzyme levels in a cell by administering a therapeutic agent comprising an antisense nucleic acid sequence that specifically binds to a nucleic acid encoding an antioxidant enzyme start codon, wherein the antisense sequence is about 18 to 26 nucleotides in length.
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11. [Previously Amended] The method of claim 8, wherein the therapeutic agent is injected into the tumor.
12. The method of claim 8, wherein the mammal is a human.
13. The method of claim 8, wherein the therapeutic agent further comprises a delivery vehicle.
14. The method of claim 13, wherein the delivery vehicle is lipofectamine or -[1-(2,3-dioleoyloxy)propyl]-N,N,N-trimethylammonium methyl sulfate ("DOTAP").
15. [Previously Amended] The method of claim 8, wherein the antisense nucleic acid sequence is phosphorothiolated.
16. The method of claim 8, wherein the antioxidant enzyme is manganese superoxide dismutase, copper and zinc superoxide dismutase, catalase, phospholipid glutathione peroxidase, or cytosolic glutathione peroxidase.
17. The method of claim 16, wherein the antioxidant enzyme is manganese superoxide dismutase, catalase, or phospholipid glutathione peroxidase.
18. [Previously Amended] The method of claim 8, wherein the antisense nucleic acid sequence is complementary to 90% of the nucleic acid encoding an antioxidant enzyme.
19. [Previously Amended] The method of claim 8, wherein the antisense nucleic acid sequence is complementary to 100% of the nucleic acid encoding an antioxidant enzyme.

N.E.

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- N.K.
20. An oligonucleotide comprising an antisense nucleic acid sequence that specifically binds to a nucleic acid encoding an antioxidant enzyme start codon, wherein the sequence is SEQ ID NO:1, 2 or 3.
 21. The oligonucleotide of claim 20, wherein the antisense nucleic acid sequence is phosphorothiolated.